

Hoek described, from the 'Challenger' Expedition, two species, *N. fuscum*, from 25 fathoms off Royal Sound, Kerguelen, and *N. meridionale*, from 1675 fathoms in the Antarctic Ocean, which he compared with Miers's (or, rather, Böhm's) species, in each case mentioning as one of the chief differences the form of the ocular tubercle. Hodgson* has recently commented on the difficulty of distinguishing these species from each other and from *N. antarcticum* (*N. gracilipes*). I have compared the types of all three species, and I am no more able than Mr. Hodgson to indicate satisfactory distinctions between them. The only difference that seems at all likely to be of importance is in the form of the chela, which, in *N. gracilipes*, is a good deal elongated, the palm being more than twice as long as wide. In the other two forms the palm is less than twice as long as wide and the fingers correspondingly shorter. The other differences in proportion shown by the measurements given above (including the relative lengths of tarsus and propodus mentioned by Hodgson) seem to be insignificant.

LIV.—*Brief Descriptions of new Thysanoptera*.—VI.
By RICHARD S. BAGNALL, F.L.S.

Suborder TEREBRANTIA.

Family Thripidæ.

Genus HOMOTHRIPS, nov.

Head transverse, cheeks diverging posteriorly. Antennæ of usual Thripid type, but having a 3-jointed style which is not quite so long as the sixth joint. Mouth-cone constricted near middle, reaching across prosternum; maxillary palpi long, 3-jointed, the middle joint the shortest. A pair of very long fine inter-ocellar bristles, and four immediately behind antennæ between eyes. Prothorax transverse, with two long bristles at each hind angle. Fore-legs simple. Wings well-developed; fore-wings with both veins regularly set with setæ. Abdomen elongate; last two segments normal, and bristles on them long.

Type. *Homothrips distinctus*, mihi.

This genus differs from all genera excepting *Rhampothrips*,

* Ann. & Mag. Nat. Hist. (8) xv. p. 142 (1915).

Karny, in the 3-jointed antennal style. From the latter it may at once be separated by the simple fore-tibiæ and tarsi and the regularly set upper-vein of fore-wing.

Homothrips distinctus, sp. n.

♀.—Length 1.4 mm.

General colour yellow; legs, basal antennal joints, and abdomen lighter, almost white; tip of abdomen and disc (at least) of tergites 2-8 slightly tinged with brown; mesothorax near juncture with prothorax, the disc of pronotum and the head (excepting a patch at hind corners, from the eye broadening posteriorly) brown. Antennæ approximate, joints 3-5 weakly claviform, 6 constricted at base and broadly united to style; relative length of joints 3 to 9 approximately 15 : 14 : 11 : 13 : 3 : 3 : 5. Forked trichomes on 3 and 4. Eyes very largely faceted, and minutely and sparsely pilose. Ocelli set well back.

Prothorax about as long as head and about 1.6 times as broad as long, surface sparsely setose. Bristles at posterior angles about 0.75 the length of the prothorax. Pterothorax longer than broad and broader than the prothorax. Legs usual, rather stout; hind-tibiæ with a double row of setæ inside for the distal two-thirds of its length. Wings reaching to abdominal segment 8; setæ of fore-wing long; costa, upper vein, and lower vein furnished with 25, 22 (5 and 17), and 15 respectively; lower cilia long. Abdomen long and linear; segment 9 sharply narrowed to base of 10, and bristles on these segments strong and considerably longer than the segment bearing them; 9 furnished with a laterodorsal pair in addition to the series at apex.

Hab. SOUTH AFRICA, from flowers of "sugar-bush" (Proteaciæ), gathered at Cape Town, July 13th, 1914 (Professor E. B. Poulton).

A. PHYSOTHRIPS group.

Genus MEGALUROTHRIPS, nov.

Allied to *Physothrips*. Head with a long and strong pair of inter-ocellar bristles, maxillary palps Bristles on prothorax Mesonotum with a long bristle somewhat remote from each shoulder. Both veins of fore-wing regularly set with setæ. Abdominal segments 9 and 10 abnormally large, together longer than the length of head and prothorax, sharply obconical.

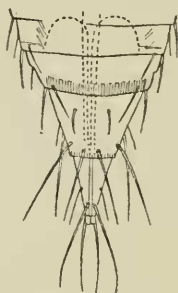
Type. *Megalurothrips typicus*, mihi.

Megalurothrips typicus, sp. n.

♀.—Length about 1·4 mm.

General colour dark brown ; fore-tibiæ yellowish distally, and all tarsi yellowish. Antennal joints 3 and 4 yellow, the latter shaded brown distally, and 5-8 light brown, with 5 yellowish at base. Fore-wings light yellowish-brown, with a light patch near base and another near tip. Head transverse, 1·4 times as wide as long ; eyes coarsely faceted, pilose. A series of minute dorsal setæ on a line behind eyes.

Fig. 1.



Megalurothrips typicus, gen. et sp. n. End of abdomen, ♀. Dotted line showing ovipositor and sheath.

Ocelli rather large, the hind pair well separated and the posterior one forwardly directed and protected by a pair of very long inter-ocellar bristles which are as long as the two basal antennal joints together. Antennæ about 2·6 times the length of the head, joint 3 *apparently* shorter than 4 ; 5 distinctly shorter than 3, 4, or 6 ; the style about 0·5 the length of 6, with the apical joint longer than 7. Trichomes and bristles long.

Prothorax 1·4 times as long as the head. It is impossible to say from the imperfect specimen if there is one or two long bristles at each hind angle. Legs rather stout. Pterothorax about as long as broad, large. Wings reaching to the ninth abdominal segment ; costa, upper and lower veins of fore-wings furnished with approximately 22, 17 (3 + 14), and 15 longish setæ respectively. Abdomen (excluding segments 9 and 10) elongate-ovate, 9 and 10 subequal in length and distinctly longer than any of the preceding segments and sharply obconical ; 10 open above.

A pair of straight lateral bristles on 8 reaching beyond the middle of 9, and 9 and 10 furnished with long bristles, longer than the segments bearing them, and those on 9 overreaching the tip of 10.

Hab. W. SARAWAK, Mt. Matang; 1 ♀ caught on the wing, December 1913 (*G. E. Bryant*).

Tewnothrips seticollis, sp. n.

♀.—Length 1.3 mm.

Dark grey-brown, thorax yellowish in part, head darker than the prothorax. Antennæ with joint 1 yellowish-brown, 2 lighter, 3 yellow, 4 to 8 greyish-brown, with 4 lighter basally. All femora yellowish to grey-brown; tibiæ yellow, lightly shaded to grey or grey-brown; tarsi yellowish. Fore-wings light greyish-brown, basal fourth white.

Head nearly as long as broad, cheeks swollen and eyes prominent; surface transversely striate. Eyes coarsely faceted, pilose. Ocelli on a prominence, large, posterior pair placed close to inner margin of eyes and well back, anterior one forwardly directed.

Antennæ at least twice as long as head; joints 3 and 4 fusiform, practically subequal; 5 about 0.85 the length of 4, and 6 practically as long as 4, the two-jointed style very short, only 0.3 the length of joint 6. Forked trichomes on 3 and 4.

Prothorax slightly longer than the head and about 0.8 as long as broad; the two long bristles at each hind angle slender and more than 0.5 the length of prothorax. Surface and side sparingly set with somewhat longish setæ, mostly curved and directed backwards. Fore-legs stouter than the others and (with hind and intermediate legs) also set with rather long curved setæ; the hind-tibiæ furnished for the length of the inner margin with a double row of straight setæ, terminating distally with a pair of stout yellow spines. Pterothorax more than twice as long as the pronotum and as broad across mesonotum as long. Wings long, reaching to the eighth abdominal segment. Fore-wings pointed distally; upper vein furnished with 19 and lower vein with 17 moderately long setæ. Setæ on costa 27, increasing in length towards apex of wing; upper fringe sparse, delicate; lower fringe wavy. Abdomen elongate-ovate, broader than the pterothorax and approximately 2.5 times as long as broad; segments 8 and 9 sharply narrowed to base of 10; 10 open above. Abdominal bristles light brown, those on 9 and 10 longer than the segments bearing them.

Hab. W. AUSTRALIA; 1 ♀ taken by Professor E. B. Poulton, F.R.S., with examples of *Isoneurothrips australis*, sp. n., from the flowers of a small tree of *Acacia* sp. (probably *A. baileyana*, F. v. Müll.), Mundaring Weir, Darling Range, Perth, August 3rd, 1914 (tube 16).

Differs from known species by the fore-vein of fore-wing, which is regularly set with setæ—a character generally regarded as of generic importance.

B. THRIPS group.

Genus *ISONEUROTHRIPS*, nov.

With all the characters of *Thrips* (+ *Bagnallia*), but having the whole of the upper-vein of fore-wing regularly set with setæ as well as the lower.

Type. *Isoneurothrips australis*, mihi.

a. *Thrips* s. str. type.

Isoneurothrips australis, sp. n.

♀.—Length 1·4 mm.

General colour yellow, with dark setæ. Head only lightly tinged with grey, vertex brownish; pronotum yellowish-brown; pterothorax tawny, tinged with brown at margin. Abdomen yellow, segments 9-10 wholly dark grey-brown, other tergites light grey-brown and pleurites yellowish. Legs yellow, tinged with grey. Fore-wings greyish-yellow with setæ and cilia dark. Eyes black and ocelli with crimson hypodermal crescentic margins. Head transverse, about 0·7 as long as broad; cheeks arcuate. Eyes prominent, coarsely faceted, pilose. Some short, erect, genal setæ behind eyes and a dorsal series approximately on a line behind eyes.

Antennæ about three times as long as the head; first joint yellow, second grey-brown, third yellowish, irregularly tinged with grey-brown; fourth and fifth rich purple-grey, yellow basally, and 6 of the same rich colour in the basal two-thirds, but with the apical third together with the style light grey. Joints 3 and 4 fusiform, and together with 6 approximately subequal; 5 much smaller and style very short.

Prothorax longer than head, bordered anteriorly; the two prothoracic bristles at each hind angle about one-third the length of the pronotum, stout and almost black; a series of shorter postero-marginal setæ. Surface sparsely and minutely

setose. Legs almost as in the previously described species, but with more minute setæ, and the series of setæ on inner side of hind tibiæ shorter and stouter and starting at about the middle. Pterothorax large, at least 1.6 times as broad as the prothorax and but slightly longer than broad; disc faintly reticulated. Wings reaching to eighth abdominal segment; setæ of fore-wing short, stout, and very dark. Costa, upper and lower vein furnished with approximately 38, 28 (3+7+18), and 23 setæ respectively, upper fringes sparse, lower wavy. Abdomen elongate, narrower than the pterothorax, with sides subparallel to segment 6, thence faintly narrowing to 8; 9 and 10 together obconical, and the latter open dorsally; bristles on 9 and 10 long.

A fine, richly coloured species.

Hab. W. AUSTRALIA; taken by Professor E. B. Poulton from the flowers of a small *Acacia*-tree (probably *A. baileyana*, F. v. Müll.). Mandaring Weir, Darling Range, Perth, Aug. 3rd, 1914 (tube 16), and from the flowers of *Acacia pulchella*, R. Br., Cottesloe Beach, near Fremantle, Aug. 31st, 1914 (tube 26).

b. *Bagnallia* type.

Isoneurothrips orientalis, sp. n.

♀.—Length approximately 1.4 mm.

Colour dark blackish-brown; fore-femora lighter brown, with tibiæ yellowish, shaded to brown at margins; intermediate tibiæ somewhat lighter distally. Antennal joint 3 yellowish-white, tinged with grey to a light brown, 4 greyish-white at base and 5 to 7 entirely brown. Head about 0.85 as long as broad, surface transversely striate; eyes moderately largely faceted, pilose. Ocelli large, placed well back, and posterior pair touching the inner margin of eyes. Antennæ 2.2 times as long as the head, joints 4 to 7 slender, 3 and 4 constricted near apex; approximate length and breadth of 3 to 7 as follows:—

$$\begin{array}{l} 18 : 19 : 14 : 18 : 5 \\ 6 : 7 : 5 : 5 : 2 \end{array}$$

Prothorax quadrate, scarcely longer than the head; 1.5 times as broad as long. Setæ at hind angles long, 0.5 as long as the pronotum. Legs much as in *I. australis*. Wings grey-brown, setæ longer and more slender than in *I. australis*. Abdomen long and linear.

♂.—Smaller. Sternites 3 to 7 each with a strongly transverse area much as in *Baliothrips dispar*, the first two being the largest.

Hab. W. SARAWAK, Mt. Matang, at 1000 feet, December 20th, 1913; 2 ♀s and 1 ♂ in a white flower (*G. E. Bryant*).

Unfortunately imperfect.

Suborder TUBULIFERA.

Family Phlæothripidæ.

A. MACROTHRIPS group.

Adiaphorothrips antennatus, sp. n.

Length about 5.0 mm.

Very like *A. simplex*, Bagn.; head shorter and less than 1.5 times as long as broad, genal setæ and the inter-ocular bristles distinctly longer and stronger than in *simplex*. Antennal joints 3 to 5 practically subequal, 3 being apparently shorter than 4 (approximately 21:23:22, instead of 29:26:21 in *simplex*). Male smaller, with the head comparatively longer, and the tube only about 1.15 times the length of the head as compared with 1.3 times the length in the female. A distinct wart at extreme apex of each foretibia within.

Hab. W. SARAWAK; 1 ♀, Mt. Matang, at 1000 feet, from under bark of dead tree, Dec. 7, 1913, and 1 ♂, Quop, March 28th, 1914 (*G. E. Bryant*). Mr. Bryant also collected examples of *A. simplex* from both localities.

B. TRICHOTHRIPS group.

Genus TETRACANTHOTHRIPS, nov.

Comes in *Trichothrips* group. Size small. Head broader than long, cheeks arcuate, narrowed to base, and armed with short strong spines. Mouth-cone Antennæ

Prothoracic setæ very long. Fore-coxæ with one long strong seta and a few shorter ones. Anterior margin of mesonotum armed on each side with two stout finger-like spines and other smaller ones. Tube normal in shape, but with distinct though somewhat weak longitudinal carinations basally.

The spine-like mesonotal processes are a peculiar feature.

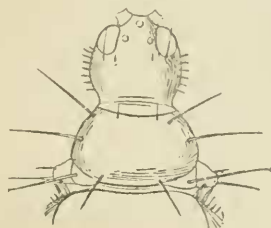
Type. *Tetracanthothrips borneensis*, n.

Tetracanthothrips borneensis, sp. n.

♂.—Length about 1.6 mm.

Dark brownish-black, shining; pterothorax medianly in form of an inverted triangle light yellowish-brown; head not so dark as prothorax; the two basal antennal joints (rest broken off in the unique specimen) yellow. Fore-legs yellow to yellowish-brown, with the femora shaded to brown basally; hind and intermediate legs darker, but yellowish above knees. Tube brownish at apex. Fore-legs incrassate; intermediate and hind-femora with some strong spines on the upper margin near or beyond middle. Bristle at each hind angle of prothorax longer than the length of the prothorax through middle. Wings short, vestigial. Abdomen broadly ovate; segments strongly transverse. Tube not quite so

Fig. 2.



Tetracanthothrips borneensis, gen. et sp. n. Head, pronotum, fore-coxae and front of mesonotum.

long as the head. Abdominal hairs long; those on segment 9 as long as tube, and on 6 and 7 longer; mostly dark, but some on 8 and 9 practically colourless.

Hab. W. SARAWAK; 1 brachypterous ♂, Mt. Matang, December 1913 (*G. E. Bryant*).

Allothrips caudatus, sp. n.

♂.—Forma *macroptera*.

Length about 2.3 mm.; breadth of pterothorax 0.45 mm.

Yellowish- to greyish-brown; head and pterothorax yellowish medianly. Abdomen dark grey to black-brown; tube reddish, shaded with brown at apex. Fore-legs yellowish, shaded to grey-brown; outer margin of femora darkest; hind and intermediate femora dark grey-brown; all tarsi yellow. Antennal joint 3 yellow, tinged with grey distally; 4 and 5 yellowish, shaded with grey-brown basally and distally; 6 yellowish basally. Head large, as broad as long and nearly

twice the length of the prothorax; cheeks very slightly converging posteriorly. Eyes occupying dorsally about one-third the length of head, finely faceted; postocular bristles long, pointed. Ocelli large, placed well forward, the posterior one situated at the apex of raised vertex and forwardly directed. Mouth-cone short, broadly rounded, and reaching about 0.65 way across the prosternum; labial palps rather long. Antennæ about twice the length of the head, seven-jointed, joints 3 to 5 claviform and 3 and 4 practically subequal. Relative lengths and breadths of joints 3 to 5:—

$$\begin{array}{cccc} 30 & : & 32 & : & 28 & : & 24 & : & 28 \\ 13 & : & 14 & : & 12 & : & 11 & : & 10 \end{array}$$

Joint 6 constricted apically and truncate distally, and 7 elongate, oviform. Sense-cones long and slender.

Prothorax strongly transverse, more than 2.5 times as broad as long; all prothoracic setæ present, long and pointed, the postero-marginal pairs about 0.6 the length of prothorax. Fore-legs incrassate, tarsal tooth stout; single prominent seta on each coxa. Pterothorax scarcely broader than the breadth across fore-coxæ, about 0.875 as long as broad. Wings reaching to abdominal segment 8; cilia smoky brown. Abdomen slightly broader than pterothorax, elongate, with segments strongly transverse; segments 7 to 9 roundly narrowed to base of tube. Tube a little longer than the head, twice as broad at base as at apex; more sharply (and somewhat roundly narrowed) from about middle. Terminal hairs only about 0.4 the length of tube. Abdominal bristles yellowish, pointed, some on 7 to 9 long, the longest on 9 being about 0.8 the length of the tube.

Sharply separated from the only other described species, *A. megacephalus*, Hood, by its coloration, larger size, the longer antennal joints 3 to 7, the shorter pronotum and mouth-cone, the long tube, and nature of chaetotaxy.

Hab. W. SARAWAK; 1 ♂, Mt. Matang, Dec. 11th, 1913 (*G. E. Bryant*).

Family *Ecacanthothripidæ*.

There are evidently several species of *Ecacanthothrips*, and all available material requires re-examination. *E. bryanti*, Bagn., *E. crassiceps*, Karny, *E. sanguineus* (Bagn.), and *E. steinskyi* (Schmutz), have already been described; but in Mr. Bryant's very interesting Bornean material is a series of *Ecacanthothrips* characterized by the simple fore-coxæ of the male. There appears to be three species—a small one, a

medium-sized one with all tibiæ clear yellow, and a black one. I now describe the first two.

Ecacanthothrips coxalis, sp. n.

Length, ♂ 1.75, ♀ 2.1 mm.

This species (and the following one) has the fore-coxæ in the ♂ simple, and in the shape of the fore-femora and teeth comes nearest to *E. steinskyi* (Schmütz), but is only very minutely pilose. Colour dark reddish-brown, including the hind and intermediate tibiæ; fore-tibiæ greyish-yellow, with outer and inner margins brownish. Antennæ just about 2.0 the length of head, with joints 1 black, 2 to 4 entirely chestnut-brown, 5 to 8 lighter grey-brown with basal halves of 5 and 6 yellow, 4 broadly claviform, 5 much narrower and 3 to 5 subequal in length.

Head inclined to be broadly subcarinate dorsally, 1.65 times as long as broad; at least two stout genal spines on each side, postocular bristles not as long as the eyes, and a pair of knobbed subgenal setæ as in *bryanti* but much shorter.

Tube short, very stout; approximately 0.45 the length of the head.

Hab. W. SARAWAK, neighbourhood of Mt. Matang; 2 ♀s (1 to light), December 1913, and 1 ♂, February 1914 (*G. E. Bryant*).

Ecacanthothrips flavipès, sp. n.

♂.—Length about 2.6 mm.

Very dark brown, almost black, shining; all tibiæ and tarsi clear yellow. Antennal joints 4 and 5 yellow, shaded to brown basally and distally; joints 4 and 6–8 more slender than in *coxalis*; 4 and 5 subequal and each apparently longer than 3.

Head much as in *coxalis*, with the cheek-spines stouter; postocular bristles longer and the subgenal setæ distinctly shorter than in that species. Tube stout, about 0.6 the length of the head.

Easily separated from *coxalis* by its larger size, distinctive coloration of legs and antennæ, longer tube, and the stouter fifth and more slender fourth antennal joints. The setæ on fore-femora are not quite so minute, and the lower tooth is sharper and not so stout.

Hab. W. SARAWAK, Mt. Matang, at 1000 feet; one on a white flower and three on dead bark, December 1913 (*G. E. Bryant*).